

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of

Petition of Fibertech Networks, LLC)	
For a Rulemaking to Amend the)	
Commission's Pole)	RM 11303
Attachment Rules)	
)	

COMMENTS OF TROPOS NETWORKS

Tropos Networks (Tropos) submits these Comments in response to the Petition for Rulemaking filed by Fibertech Networks, LLC (Fibertech). Fibertech asks the Commission to commence a proceeding to foster continued construction of competitive last mile facilities by adopting "best practices" for competitor access to poles and conduit. Tropos supports the Petition and urges the Commission to commence a rulemaking addressing how its pole attachment rules can better promote facilities based competition for both wireless and wireline services. The pole attachment rules should be updated to reflect the priority of expanding broadband access.

Tropos Networks

Tropos Networks, headquartered in Sunnyvale, California, provides wireless technology that delivers broadband access. Its customers are receiving and transmitting broadband at costs substantially lower than that offered by incumbent providers. Tropos is the technology provider to EarthLink in its Philadelphia and Anaheim, California projects, where metro scale Wi-Fi networks are being deployed. The Tropos equipment in New Orleans that was in place prior to Hurricane Katrina to support video surveillance

is being expanded. Metro scale Wi-Fi technology is providing broadband services to citizens, businesses and government agencies throughout the United States.

Tropos technology is a form of wireless mesh networking. The system can transmit voice, data, video, photographs and a range of other broadband applications. Any laptop or other device with Wi-Fi capability can connect to the network of antennas, even while the owner carries the device from place to place. The network consists of routers with antennas, the size of a breadbox, mounted to street lamps and telephone poles. A typical metro scale mesh network encompasses a large geographic area with approximately 20 routers per square mile.

The critical asset that wireless mesh networks need is access to the street light or utility pole to place the router. Tropos and its partners have encountered continued denial of access or access at reasonable and just rates by investor-owned utilities, hampering the ability to deploy systems to serve a range of potential customers-- police, fire, other government agencies, businesses and residents. Assuring that access is provided in a timely manner is crucial to the competitive environment. The challenges enumerated by Fibertech are part of an environment where broadband service providers confront denied access and exorbitant fees to the detriment of competitive telecommunications services.

The Petitions for Rulemaking of Fibertech and the United States Telecom Association Demonstrate the Critical Role of the Utility Infrastructure in Fostering Competition and the Need for the Commission to Amend its Rules to Promote Competitive Broadband

Fibertech, a competitive local exchange carrier (CLEC), relates the pervasive recalcitrance of a major infrastructure owner/incumbent local exchange carrier (ILEC) confronting Fibertech's efforts to provide competitive telecommunications services. The resulting costs and inherent deterrence to competition accrues to the consumer's

detriment. Fibertech seeks to bring clarity to the obligations of pole owners by requesting the Commission to adopt Best Practices that will provide more effective access. Fibertech's position is echoed by two state utility commissions, New York and Illinois, and provides further justification for reform. Fibertech's petition must also be placed in the context of the advocacy and information accompanying the petition for rulemaking filed by the United States Telecom Association (USTA),¹ a trade association of incumbent local exchange carriers who own and use poles, addressing the inadequacy of current rules to overcome the recalcitrance of utility owners. USTA's position is that the current environment encompassing utility controlled poles deters competition. The often diverging interests of LECs and CLECs provide substantial premise of the need to reform and update the Commission pole attachment rules.

As Fibertech notes, poles and conduit are the foundation of the modern network. Fair and reasonable access are crucial to a competitive environment. Tropos has detailed in its comments addressing the USTA petition, a copy of which is attached to be made part of this record, the reality that broadband services are substantially deterred because of lack of access. Utility recalcitrance in an era where technology affords utilities the ability to provide telecommunications services, is becoming even more embedded. A fundamental of just and reasonable access is that it be timely.

The Commission's rules should comprehend the environment faced by those seeking access and present a clarity to conquer the recalcitrance of pole owners. The rules should also reflect modern technology and the services that it provisions. The amendments promulgated by the Commission under the Telecommunications Act of

¹ *In the Matter of the Petition for Rulemaking of the United States Telecom Association for A Rulemaking to Amend Pole Attachment Rate Regulation and Complaint Procedures*, RM 11292, Public Notice (November 2, 2005).

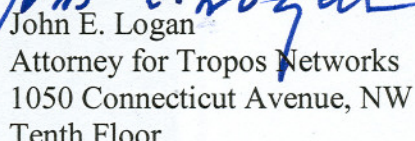
1996 were completed prior the era of broadband. For the Commission's pole attachment rules to remain relevant, for them to be a source of promoting competition and access by all Americans, they should be updated.

Those who invest in providing telecommunications services find it essential to lease space on poles and infrastructure to deliver services. What this investment confronts is the bias if not convenience of utility pole owners to charge monopoly rents² and to deny access. Access to poles, for it to contribute to a competitive environment, must be timely. Tropos urges the Commission to grant the petitions of Fibertech and USTA and commence a proceeding examining how its pole attachment rules can promote the competitive delivery of modern services, particularly broadband. The proceeding should address removing the significant barriers to access to facilities of investor owned utilities that currently exist – barriers that result in stifling the Nation's commitment to pervasive low cost broadband access.

Respectfully submitted,
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² *National Cable & Telecommunications Association v. Gulf Power Company*, 534 US 327, 330 (2002).

Certification

The Comments of Tropos Networks addressing the Petition for Rulemaking of Fibertech Networks, LLC was filed with the Commission's Secretary via its electronic filing system. A copy was sent via First Class Mail to:

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January 24, 2006

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

Petition of the United States)	
Telecom Association For a)	
Rulemaking to Amend Pole)	RM 11293
Attachment Rate Regulation and)	
Complaint Procedures)	

REPLY COMMENTS OF TROPOS NETWORKS

Tropos Networks (Tropos) submits these Reply Comments to the Petition for Rulemaking filed by the United States Telecom Association (USTA) asking the Commission to commence a rulemaking extending the provisions of its pole attachment regulations to incumbent local exchange carriers (ILECs). Tropos strongly recommends that any such proceeding not be limited to ILEC services but also focus on promoting wireline and wireless broadband services. Since the pole attachment rules are crucial to promoting competitive services they should also recognize and embrace the priorities of expanding broadband access. Such recognition would help remove significant barriers to access to facilities of investor owned utilities – barriers that result in stifling the Nation's commitment to pervasive low cost broadband access.

Tropos Networks

Tropos Networks, headquartered in Sunnyvale, California, provides wireless technology that delivers broadband access. With over 250 ongoing or deployed projects, its customers are receiving and transmitting broadband at costs substantially lower than offered by incumbent providers, including ILECs. Tropos is the technology provider to

EarthLink in its well-known Philadelphia project as well as for the franchise it was awarded by the City of Anaheim, California to build a citywide Wi-Fi network. As recently announced by the City of New Orleans, Tropos will expand its Wi-Fi network that was in place prior to Hurricane Katrina. Tropos metro scale Wi-Fi technology is providing broadband services to citizens, businesses and government agencies throughout the United States.

The technology used by Tropos Networks is a form of wireless mesh networking. The system is capable of transmitting voice, data, video, photographs and a range of other broadband applications. For example, in the aftermath of Hurricane Katrina, New Orleans building inspectors were able to access thousands of records relating to commercial and residential buildings throughout the city, contributing enormous productivity gains. New Orleans use of broadband surveillance technology prior to hurricane had previously contributed to lower crime incidents.

Mesh network technology is based on principles similar to those which are the basis for the Internet. Any laptop or other device with Wi-Fi capability can connect to the network of antennas, even while the owner carries the device from place to place. The network consists of routers with antennas, the size of a breadbox, mounted to street lamps and telephone poles. A typical metro scale mesh network encompasses a large geographic area with approximately 20 routers per square mile.

As Wi-Fi equipment can be installed in minutes, as it can resist dire weather conditions, and as each router does not have to be connected to a wireline Internet connection, wireless mesh networks provide enormous cost efficiencies when compared to incumbent broadband providers. Mesh networks have emerged as facilities-based

broadband competitors, meeting or exceeding performance, reliability and security standards of services currently offered.

In deploying its mesh network systems, Tropos frequently partners with a service provider to install and maintain the network, who is then paid by the ultimate customer for these services. The customers include local governments, municipally owned utilities, businesses and individuals. One mesh infrastructure is capable of providing discrete and secure services to several separate interests, so that each has its own virtual separate network. The technology's speed of deployment, ability to commence operations prior to the overall build out and the ease by which it can be altered to respond to new requirements, contributes to its' affordability. As a result of these attributes, deployment of the technology is being resisted by incumbent providers seeking to protect market share and infrastructure owners (e.g., pole owners) demanding excessive rents.¹

The critical asset that wireless mesh networks need is access to the street light or utility pole to place the router. What Tropos and its partners have confronted is the continued denial of such access or access at reasonable and just rates by investor-owned utilities, hampering Tropos ability to deploy systems to serve a range of potential customers-- police, fire, other government agencies, businesses and residents. This environment is reflected by the comments already submitted in this proceeding, some implicitly by the utilities themselves. Broadband service providers must contend with denied access and exorbitant fees.

¹ Since the entry of metro scale Wi-Fi networks in the broadband market, ILECs have pursued an aggressive effort in state legislatures to restrict if not forbid deployment of mesh networks by municipalities or partnerships providing broadband Wi-Fi technology.

The Federal pole attachment law² and Commission regulations³ have as a core purpose promoting choice and competition. Innovation and investment have now made competitive broadband service a reality. The Commission's rules should explicitly support the opportunity for pervasive broadband access by removing barriers to pole access critical to deployment. Current rules directed toward ensuring access for cable operators and competitive local exchange carriers (CLECs) provide a screen invoked by utilities to deny access to providers solely dedicated to broadband. The Commission should rectify this deterrent to competitive telecommunications services by making clear in its rules the ability of wireless broadband providers to invoke the law and regulations to ensure access at rates that are just and reasonable.

Summary of Comments

Utility interests oppose the USTA petition, asserting that ILECs are excluded under the law's provisions regarding entities entitled to access at just and reasonable rates. Several attribute the utility treatment of ILECs to the latter's failure to meet maintenance responsibilities.⁴ Utilities further assert that ILECs already receive favorable financial benefits for access under joint ownership agreements, particularly as contrasted with entities entitled to access and reasonable and just rates under the Commission's existing rate formulas.⁵

ILEC interests support the petition and emphasize the competitive benefits accruing if ILECs were entitled to access at just and reasonable rates. BellSouth

² Section 224 of the Communications Act of 1934 as amended.

³ Subpart J, Section 1.1401 *et seq.* of the Code of Federal Regulations.

⁴ Opposition of FirstEnergy Corporation at 3, Comments of the United Telecom Council and the Edison Electric Institute at 14,

⁵ Joint Opposition of American Electric Power Service Corporation, Duke Energy Corporation, WPS Resources Corporation and XCEL Energy Inc. at 18 and 21.

Corporation (BellSouth) emphasizes an environment controlled by utilities that impose unreasonable rates, terms and conditions.⁶ Citing a study, BellSouth states that utilities seek to recoup more than the costs incurred to set up and maintain poles by imposing unregulated fees on ILECs, Internet-only providers and private telecommunications carriers.⁷ The utilities' admission that they already afford ILECs substantial discounts on pole access rates, compared to those entities entitled to rates complying with the Commission's rules⁸ and BellSouth's documentation showing that utilities pursue assessing Internet-only providers "unregulated rates", confirms that the current pole access environment creates enormous barriers to provisioning competitive broadband.

Both the utilities and ILECs advocate extensively regarding the text of the law and regulations and the breadth of the Commission's pole attachment authority. The debate centers on the degree to which the pole attachment rules extend beyond cable operators and non-ILEC telecommunications carriers. One utility interest concedes that the Commission's jurisdiction is broader than the sum of the cable and CLEC attachment rates formula.⁹

The Commission Should Commence a Rulemaking to Amend its Rules to Recognize Explicitly Broadband Providers Right to Access and Reasonable Rates

Tropos strongly believes that a proceeding examining the access rights of broadband providers is necessary to fulfill the Commission's responsibility to promote a competitive communications environment. There is a fundamental need to instill in the pole attachment rules recognition that broadband providers have a right to access at just and reasonable rates.

⁶ Comments of BellSouth Corporation at 2.

⁷ BellSouth at 5.

⁸ Joint Opposition of American Electric Power Service Corporation *et al* at 18 and 21.

⁹ Reply of the Edison Electric Institute at 5.

Tropos' own experience has been that deploying mesh networks to deliver broadband is constrained and thwarted by utility recalcitrance and inflexibility. The result is that facilities-based broadband competition continues to be stymied. An extreme but not exceptional example is the utility refusing the request of a local police department to place mesh routers on its poles for purposes of extending the department's broadband network. In a number of areas across the country it is the norm to refuse access.

This environment contrasts with circumstances where infrastructure owners comprehend the benefit of broadband access, particularly as a source of potential economic opportunity. Tropos and its partners have successfully obtained access to infrastructures owned or controlled by municipally-owned utilities, cooperatives and local governments. The circumstances extend beyond those of a customer's facilities and encompass reasonable, not excessive rates. Yet the poles owned and controlled by resisting investor owned utilities are much more extensive. Moreover, the utilities state that their control is expanding because ILECs have chosen to cede responsibility over jointly owned poles.¹⁰ This enormous ownership and firm control over pole infrastructure highlights the substantial barriers facing a competitive broadband market.

When a reason for a denial is stated, it is generally on the basis that broadband services do not qualify for access, that such services are not encompassed in the law's provision defining who may obtain access at reasonable rates— a "provider of telecommunications services." There is also reference to the degree of regulatory treatment accorded broadband services under Title II of the Communications Act as

¹⁰ Opposition of FirstEnergy at 3, Comments of the United Telecom Council and the Edison Electric Institute at 14,

being determinative of pole access rights. While the reasons are never clearly articulated, the position essentially is that broadband service are not telecommunications services and not entitled to access at fair and just rates. The denials, however, ignore that broadband encompasses the range of services, including voice, a historical telecommunications service. The denials ignore that the services are supplied to the public for a fee, another element of law's definition of a provider of telecommunications services.

Denials continue despite the December 23, 2004 *Public Notice* issued by the Wireless Telecommunications Bureau addressing these very issues.¹¹ Therein, the Bureau recognized the critical need of access by broadband services. In the *Public Notice*, the Bureau stated that access to poles at reasonable rates improves the coverage of wireless networks, promotes public safety and provide better telecommunications and broadband services, thereby increasing competition and consumer welfare. These well founded purposes, exemplified by the deployment of mesh networks, need to be made explicit in the Commission's rules to reject the current environment which *de facto* precludes access.

Notably, the comments on the USTA petition delineate how the law recognizes that broadband service providers are entitled to pole access and reasonable rates. While focused on whether ILECs fall within the definition of a provider of telecommunications services, the comments acknowledge that the Commission's authority extends beyond telecommunications carriers and cable systems (i.e., that the class of entities and services covered is a broader class). The Supreme Court has made clear that telecommunications carriers and cable systems are subsections of the universe of entities entitled to access and

¹¹ Wireless Telecommunications Bureau Reminds Utility Pole Owners of Their Obligations to Provide Wireless Telecommunications Providers with Access to Utility Poles at Reasonable Rates, *Public Notice*, DA 04-4046 (December 23, 2004).

reasonable rates.¹² The law's language allows a distinction between those services and entities not classified for purposes of Title II regulation, but still eligible to invoke the pole attachment provision as a provider of a telecommunications service.

ILEC pole access and reasonable rates is only part of the greater challenge to bring more broadband choices through competition. The ILEC industry is an incumbent and in many areas the only provider of broadband services; its only competitor being the cable operator. To promote competitive broadband the Commission must do more. The Commission's pole attachment rules should recognize explicitly that expanding broadband services is critical and that lack of access to utility poles is a deterrent to such expansion. Broadband providers are an example of how pole access must evolve to allow, not frustrate, the deployment of new technologies. Those needing access are no longer confined to cable video services, cable modem services or competitive local exchange carriers. Innovation has provided for wider and more affordable broadband service offerings by a larger base of competitors, many of which are new entrants to facilities based provisioning.¹³ Broadband providers face a critical need for access to poles at reasonable rates at a time when the United States has fallen to 16th in broadband penetration globally. Continued limitations on pole access only restrains the Nation's broadband commitment.

¹² *National Cable & Telecommunications Association v. Gulf Power Co.*, 534 U.S. 327, 334-335 (2002).

¹³ *EarthLink Wins Anaheim Wi-Fi Franchise*, www.Telecomweb.com, November 14, 2005 (visited December 19, 2005), *Google Gets Nod for Local Wi-Fi Project*, www.CIO-Today.com, November 17, 2005 (visited December 19, 2005)

Conclusion

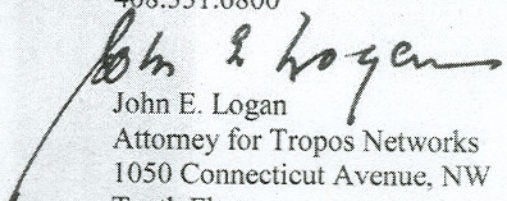
The Commission must commence a rulemaking examining how its pole attachment rules can further promote competitive broadband services. The current environment restricts access to the facilities of investor owned utilities and deters the innovation and investment that makes broadband affordable from reaching the consumer.

Respectfully submitted,

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December 19, 2005

Certification

On December 19, 2005, the foregoing Reply Comments of Tropos Networks was placed in the docket of RM 11293 by filing a copy with the Commission's Secretary via electronic filing system. A copy of the Reply Comments was sent to each of the following individuals via U.S. Mail:

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